

PEAK LOAD REDUCTION PROGRAM

**DEMAND RESPONSIVE
HVAC AND LIGHTING
BUILDING SYSTEMS**

**GRANT APPLICATION
INSTRUCTIONS**



California Energy Commission
Grants and Loans Office
1516 Ninth Street, MS-1
Sacramento, CA 95814
916-654-4381

June 6, 2001

**DEMAND RESPONSIVE HVAC and LIGHTING BUILDING
SYSTEMS GRANT APPLICATION INSTRUCTIONS**

This document provides information and instructions for submitting a project application to the California Energy Commission's **Demand Responsive Heating, Ventilation and Air Conditioning (HVAC) and Lighting Building Systems** element of the Peak Load Reduction program.

- **Part I** provides information about this solicitation.
- **Part II** describes how your proposal will be evaluated

PART I: INFORMATION ABOUT THIS SOLICITATION

A. PROGRAM SUMMARY

The goal of the Peak Load Reduction Program is to reduce peak electricity demand on the California electricity system. This program is funded by SB5X, Extraordinary Session. Six distinct Program Elements will be funded.

1. Demand Responsive HVAC and Lighting Systems
2. Cool Saving Low-Energy Use Building Materials
3. Water and Wastewater Agency Facility Generation Retrofits
4. Innovative Peak Load Reduction Program
5. Agriculture Program (Farms, Food Processors, and Dairies)
6. Municipal Utilities Programs

Projects that qualify under one of these six elements must apply to that specific program element. Information on these programs will be available by 5/21/01 at: www.energy.ca.gov/peakload/

Project that qualify under the Demand Responsive (DR) HVAC and Lighting Program must install demand responsive building equipment with the capability to reduce building power requirements in response to signals or communications from the Independent System Operator (ISO) or the local utility company. Applicants must agree to participate in one or more of the available voluntary curtailment programs for the summer of 2001 as a condition of receiving the funds. The following are some of the examples of potential strategies to reduce peak demand under this program element:

- Setting the thermostat up by 3 to 4 degrees
- Locking out the use of some HVAC equipment
- Limiting demand on the chiller
- Dimming or turning off banks of lights

The program will not fund the installation of DR systems for the sole purpose of triggering the use of back up generation facilities.

B. FUNDING

Approximately \$10 million is available for grants under this program element. Funding may be augmented if the Energy Commission reallocates funds from the other Program Elements.

There is no minimum grant, however, a minimum 250 kW demand reduction is required. The maximum grant award is \$2,000,000. The Committee will consider augmenting the grant award beyond \$2,000,000 on a case by case basis. To be eligible for increased funds, the grantee must demonstrate a record of success in achieving our goals of early installation and verification of peak load savings before July 1st, 2001

Grant recipients will be eligible up to \$250/kW, up to the actual project cost. There is an incentive for early completion of the project. The projects that are completed early will get an incentive according to the following table:

<u>Completion Date</u>	<u>Extra Incentive (\$/kW)</u>
July 1, 2001	50
August 1, 2001	30
August 15, 2001	10

Under no circumstances will the grant payment exceed the actual project cost or the original amount approved by the committee.

C. DEFINITIONS

1. Applicant —Any individual or entity applying for funds under this program element
2. Commission or Energy Commission — California Energy Resources Conservation and Development Commission
3. Committee —Peak Load Reduction Committee of the Energy Resources Conservation and Development Commission or subsequent committee charged with implementing the Peak Load Reduction Program
4. Funding Award —Award of funds to an applicant under this program element through a grant
5. Demand Responsive Building Systems —A control system that will incrementally adjust or curtail the electricity consumption of pre-defined HVAC and lighting systems in response to a signal sent from central dispatch or an aggregator. These systems may also include override switches that allow customers to opt out or override specific demand reduction strategies.

6. Peak Electricity Demand Savings —Peak electricity demand savings are calculated as the average hourly reduction in demand during the emergency stage two and three. A time period from 2 p.m. to 6 p.m., on non-holiday weekdays during the months of June through September, can be used as a proxy for the summer peak period for calculating the demand savings.
7. Pilot test A system test of the DR building systems which includes an estimate of the actual peak electricity demand savings achieved by comparing the average actual kW demand for the building (or buildings) for the five previous days with similar temperature conditions between 2 p.m. and 6 p.m. and the actual kW demand for the building during operation of the DR building system. The test includes transmitting this data to the Independent System Operator and/or an aggregator.
8. Verified peak electricity demand savings The actual or measured peak electricity demand savings measured during a test of the installed system over at least a four hour period from system start to finish. This result may need to be normalized or adjusted from the raw pilot test result (in kW) for comparison to the temperature conditions specified in the estimate of peak electricity demand savings in the application.
9. Program — PeakLoad Reduction Program.
10. Program Element — The individual subject areas designated for funding by SB 5X (i.e., Demand Responsive HVAC and Lighting Building Systems, Innovative etc).
11. Recipient —Any eligible individual or entity receiving grant funds under this program element.

D. ELIGIBLE APPLICANTS

The following electric customers are eligible for grants:

- Commercial electricity users
- Industrial electricity users
- Local Governments
- Municipal Water and WasteWater Facilities

Note regarding project aggregation. The Commission encourages the applicant to aggregate individual projects into a combined application wherever possible In order to meet the minimum 250 kW demand reduction. Grants may be awarded for projects/programs that include a group of related projects, or to a party who aggregates projects that directly benefit from the grant.

E. ELIGIBLE PROJECTS

To be eligible for funding under this program, the projects must meet all of the following requirements:

1. The project must be completed by September 15, 2001.
2. The project must give customers the capability to reduce electric demand during stage two and stage three emergencies, in response to an emergency or price signal.
3. The project must include a communication system that allows aggregators, scheduling coordinators, the building manager or local utilities to curtail loads.
4. The project must be installed in a commercial, industrial, or local government building, or municipal water and wastewater facilities.
5. The project must continue to reduce demand from completion through September 30, 2004.
6. The demand savings must be isolated and measurable.
7. The savings claimed in the proposal are not counted under any other incentive program.
8. The project must comply with all applicable environmental laws, rules , regulations, and ordinances.

F. PROJECTS NOT ELIGIBLE FOR FUNDING

The following projects are not eligible under this program:

1. Back-up generation projects
2. Onsite generation projects
3. Thermal energy storage projects
4. Fuel switching projects (e.g., electricity to natural gas)

G. APPLICATION PROCESS

1. Complete and sign the enclosed application form.
2. Attach all requested information including attachments 1, 2, and 3.
3. Submit one signed original (signed in ink and clearly marked original) and copies of your application and all the supporting documents, no later than June 15, 2001, to:

California Energy Commission

**Attention: Demand Responsive HVAC and Lighting Building Systems
Grants and Loans Office**

**1516 Ninth Street, MS-1
Sacramento, CA 95814-5512**

The Energy Commission will not accept faxed or e-mail applications. Please, no spiral or permanently bound applications.

H. QUESTIONS ABOUT THIS SOLICITATION

All questions regarding this solicitation must be submitted to Ram Verma, the HVAC and Lighting Building Systems Grants Program Manager, by one of the following methods:

Email: rverma@energy.state.ca.us

FAX: (916) 654-4304

Phone: (916) 654-8435

Please clearly mark the subject line or cover page: **Questions for Demand Responsive HVAC and Lighting Building Systems**

I. APPLICATION DEADLINE

Applications will be accepted starting May 14, 2001 on a **first-come first-served basis**. The funds are only available to applicants submitting applications received on or before 4:00 p.m. June 1, 2001. If the Energy Commission does not have sufficient qualified proposal and the funds are available, this deadline may be extended.

J. SCHEDULE

The schedule for this funding solicitation is as follows:

Application package available	May 14, 2001
First date when Applications will be accepted	May 14, 2001
Last date for receiving Applications	June 15, 2001
All projects must be operational	September 15, 2001

K. APPLICATION REVIEW AND APPROVAL PROCESS

1. Screening for Eligibility — The Energy Commission staff will initially screen applications for eligibility and completeness. Staff will inform the ineligible applicants within 14 days after receiving the applications via E-mail.

2. Funding — Completed applications will be reviewed in the order received. Funds will not be reserved for the proposed project until staff receives a **complete** application package and determines that the proposed project meets the minimum eligibility criteria. Applicants who submit incomplete information will be notified of deficiencies, but will lose their place in line in the review process and will receive a new place when all requested information is received.

3. Evaluation — Interviews, site visits and additional information may be requested to evaluate the proposals.

4. Approval — The Energy Commission's Peak Load Reduction Committee will approve applications for funding. The date of approval shall be the official project start date. Expenses incurred prior to the date of Committee approval cannot be reimbursed. The Energy Commission reserves the right to award all, any part, or none of the funds available under this solicitation, and to fund all or any part of any proposed project which has received a passing evaluation.

5. Grant Agreement — After a project application is approved by the Committee, a grant agreement will be developed for both the funding recipient and the Energy Commission to sign. This agreement defines the work to be completed, products, schedule, budget, and the rights and obligations of the recipient and the Energy Commission. To review the SB 5X Terms and Conditions, which will be included in your grant agreement, go to the web site www.energy.ca.gov/peakload/

L. DISBURSEMENT OF FUNDS

In order to release any payments, a grant agreement must be signed between the CEC and the recipient.

- Upon the request of the Recipient via a payment request, an advance of up to twenty per cent of the grant funds may be released upon approval of the project budget which includes all installation and material charges and a schedule for completion. These funds can only be used for the purchase of equipment, hardware and or software to be installed at the customer premise or at a web site. No funds for labor or salaries will be released until after the pilot test.
- Up to an additional thirty percent of the grant funds may be released after the pilot test (to confirm the estimated load reductions) is successfully completed. This additional disbursement of funds will occur only after Recipient supplies a payment request that:
 - documents costs associated with any outstanding advanced funds, and,
 - documents the payment request amount for costs expended up through the pilot test.

- The remaining fifty percent of the payments will be released after:
 1. The recipient has made all the necessary adjustments in the control system after the pilot test to ensure that the project will perform as expected in a reliable manner for the next three years.
 2. The project is complete and the recipient demonstrates or certifies that it has achieved the desired peak electricity demand savings or supply augmentation.
 3. The recipient has submitted the final report and this report has been approved by the CEC Project Manager
- Grant payments will be based on the approved dollars per kW of peak electricity demand savings. If the peak electrical demand savings or supply augmentation falls short of the original estimates, reimbursement may be reduced proportionally from the original grant award.
- Except for the initial 20 percent advance payment (if provided), payments will be made on a reimbursement basis, after the recipient submits the appropriate invoice(s) to the Commission.
- All invoices must be submitted with a completed payment request form and accompanied by all backup documentation. The backup documentation should include copies of paid invoices and receipts detailing the specific equipment and purchases, the services produced, and personnel time records where appropriate.

M. REPORTING REQUIREMENTS

All recipients will be required to submit monthly progress reports to Commission staff, due by the fifth of each month beginning the month after grant execution, until the project is complete and a final report submitted. The progress reports shall contain at a minimum the following information:

1. Status of work, including an indication of overall progress compared to the expected schedule and goals, and milestones achieved
2. Any deliverables (products) as identified in the grant agreement
3. A comparison of cumulative project expenses to date versus the project budget
4. Any barriers that have been encountered that could delay the completion of the project

In addition, the program manager may periodically contact the recipients to assess progress. If the recipient fails to reach predetermined performance milestones during project development, the recipient will be required to explain how the project schedule can recover to the Energy Commission program manager's satisfaction, or the grant award may be terminated.

Recipients must submit a final report after the project is completed.
Requirements for the final report can be found in the Terms and Conditions.

N. MEASUREMENT AND VERIFICATION

Measurement and verification consists of three components:

1. Analysis of projected peak demand savings. All projects pre-installation documentation of projected demand savings will be analyzed for validity and accuracy. Recipients will be responsible for submitting complete documentation that indicates the basis for estimates of projected demand savings. The Commission will analyze this documentation. See the application form for requirements for documenting estimated peak electricity demand savings.
2. Verification of proper installation. Recipients will be required to submit documentation confirming the installation and commissioning of each demand responsive system. Documentation requirements will be tailored to each project but will include items such as installation date, description of installed systems, customer's willingness to use and acceptance of the new technology, and the results of the pilot test report. The Energy Commission may inspect sites to confirm proper installation. Payments may be reduced or withheld if complete and proper installation is not documented.
3. Pre- and post-installation evaluation. The Commission will audit a sample of grant recipients' projects to verify compliance with the grant agreement and approved project documentation, and to document peak electricity demand reductions. This work may include pre-installation and/or post-installation inspections, metering, data collection, interviews, and utility bill data analyses. Recipients will be required to cooperate with the Energy Commission staff, or their representatives, that may be conducting these evaluations.
4. In addition to these measurement and verification components, the Commission will monitor the progress of awards and evaluate the effectiveness of the program and this program element. Recipients must maintain records for a period of at least three years after final payment is received, and allow the Energy Commission access to records and installation sites during this three-year period.

O. LOCAL AGENCY RESOLUTION

When the recipient is a county, city, district or other local public body, the recipient must provide a signed resolution, order, or ordinance of the local governing body which by law has authority to enter into the grant agreement. This document must authorize the recipient to enter into the grant agreement

and designate an authorized representative to execute all necessary agreements to implement and carry out the purposes of the award.

The governing body resolution, or equivalent, need not be submitted with the application, but it must be received prior to any funds being disbursed.

Note: Public Agencies applying for a grant should immediately initiate the process to obtain the resolution from their board or governing board to avoid any delay in starting up the project.

P. CONFIDENTIAL INFORMATION

Applications and proposals shall not contain confidential material. Any material in an application that is marked confidential automatically will be disregarded and returned to the applicant. The application will be evaluated without the confidential information. All applications submitted to the Energy Commission will be public documents once the project selections are made.

Q. CANCELLATION OF SOLICITATION

The Energy Commission reserves the right to do any of the following:

1. Cancel the solicitation at any time.
2. Modify the instructions and application as needed upon written notice.
3. Reject any or all applications received in response to the solicitation.

PART II: HOW YOUR PROPOSAL WILL BE EVALUATED

A. INITIAL SCREENING OF PROPOSALS

Prior to technical screening, all applications will be screened for completeness and to determine if they meet the minimum eligibility requirements. The following checklist is provided to assist you in ensuring that your application is complete.

APPLICATION CHECKLIST

Needed Item	What Must Be Submitted?	For additional information, refer to the following Grant Application Sections
☒ Applicant meets all eligibility requirements	Include explanation in Section E of the Application Form, Part III	<ul style="list-style-type: none"> Eligible Applicants: Part I, Section D
☒ Project meets all eligibility requirements	Include explanation in Section E of the Application Form, Part III	<ul style="list-style-type: none"> Eligible/Ineligible Projects: Part I, Section E
☒ Application form is complete and signed ☒ Attachment 1 — Work Statement ☒ Attachment 2 — Project Budget ☒ Attachment 3 — Calculations for peak electricity demand savings including engineering certification (if required).	The original signed application including Attachments 1-4 plus three copies of the application and Attachments 1-4 (Attachment 4 is only required for public entities and does not have to be submitted as part of application)	The application is available electronically at: www.energy.ca.gov/peakload/ <ul style="list-style-type: none"> Where to send applications and get information: Part I, Section G Application deadline: Part I, Section I Application process: Part I, Section K Disbursement of funds: Part I, Section L

B. EVALUATING CRITERIA

The following table shows the criteria that will be used by the selection committee to evaluate your proposal. Please keep this in mind when preparing your Grant Application. Applicants must receive a pass in each area, and then the applicants will be recommended for funding on a first come first served basis.

TECHNICAL EVALUATION CRITERIA	PASS	FAIL
1. Project feasibility <u>Factors to be considered:</u> <ol style="list-style-type: none"> Is the project technically feasible? Is the project economically viable? Does the applicant or its contractor have experienced and qualified staff? Is the comfort level of building occupants after the curtailment sustainable? Is the expected Indoor Air Quality after the curtailment acceptable? 		
2. Level of certainty of demand savings <u>Factors to be considered:</u> <ol style="list-style-type: none"> Are the baseline assumptions related to energy and peak use plausible? Are the calculations of demand savings accurate? Does the proposal have data to back-up the calculations? Does the proposal demonstrate verifiability of savings? Does the proposal have a feasible pilot test plan? 		
3. Effective use of grant funds <u>Factors to be considered:</u> <ol style="list-style-type: none"> The project will not increase fossil fuel consumption Will the project reduce peak demand for three years after completion? 		
4. Timely Completion <u>Factors to be considered:</u> <ol style="list-style-type: none"> Has the applicant submitted a detailed schedule that ensures timely completion of the installation and completion of a pilot test by Sept 15th, 2001? Is there sufficient lead time for acquiring the necessary equipment? Availability of applicant s and/or contractor s staff 		
5. Reliability of load impacts <u>Factors to be considered:</u> <ol style="list-style-type: none"> Does the applicant have a plan to monitor the affected comfort and Indoor Air Quality Parameters? Does the applicant have a plan for re-commissioning and adjustments to the system. 		
Overall recommendation		

